AMENDMENTS TO THE CLAIMS

1. (amended) A method ~~of~~ for producing ~~one or more~~ complex hydride compounds capable of reversible hydrogenation, comprising:

~~mechanically mixing~~ processing a ~~alkali metal hydride~~ mixture of NaH powder, ~~with~~ aluminum powder, and a powder of a transition metal catalyst compound selected from the list consisting of $TiCl_3$, TiF_3, and mixture thereof, in ~~order~~ a high energy refractory ball mill for about 2 hours to provide a compounded powder mixture; and

hydrogenating said compounded mixture at an elevated temperature and pressure to provide ~~one of more alkali metal- aluminum~~ hydride compounds comprising $NaAlH_4$ and Na_3AlH_6.

2. (canceled)

3. (canceled)

4. (amended) The method according to claim ~~2~~**1**, wherein the molar ratio of ~~said alkali metal hydride~~ the NaH powder to said aluminum powder is 1:1 to 4:1.

5. (amended) The method according to claim ~~3~~**1**, wherein said molar ratio of the transition metal catalyst compound to the ~~alkali metal hydride~~ NaH powder is 1:20 to about 1:100.

6. (canceled)

7. (canceled)

8. (amended) The method according to claim **1**, wherein said step of ~~mechanically mixing~~ processing is carried out in an atmosphere consisting essentially of argon.

9. (canceled)

10. (original) The method according to claim **1**, wherein said step of hydrogenation is performed at an initial temperature of above about 60°C, and wherein said hydrogen pressure is maintained above an equilibrium plateau pressure for hydrogen at said initial temperature.

11. (amended) The method according to claim ~~1~~**10**, wherein said step of hydrogenation is performed at an initial temperature about 125°C, and wherein said hydrogen pressure is maintained at about 100 atmospheres and for at least about 2 hours.

12. (amended) A method ~~of~~ for producing ~~one or more~~ complex hydride compounds capable of reversible hydrogenation, comprising:

~~mechanically mixing~~ processing a mixture of a comminuted form of ~~an alkali~~ sodium metal, ~~with~~ aluminum powder, and a powder of a transition metal catalyst compound selected from the list consisting of $TiCl_3$, TiF_3, and mixture thereof, in ~~order~~ a high energy refractory ball mill for about 2 hours to about 3 hours to provide a compounded powder mixture; and

hydrogenating said compound mixture at an elevated temperature and pressure to provide ~~an alkali metal aluminum~~ complex hydride compounds comprising $NaAlH_4$ and Na_3AlH_6.

13. (canceled)

14. (canceled)

15. (amended) The method according to claim ~~13~~**12**, wherein the molar ratio of the ~~alkali~~ sodium metal to the aluminum is 1:1 to 4:1, and wherein about 10% of said sodium metal is added step-wise to the mixture at intervals of about 20 minutes each.

16. (amended) The method according to claim ~~14~~**12**, wherein said molar ratio of the transition metal catalyst compound to the ~~alkali~~ sodium metal is 1:6 to about 1:100.

17. (canceled)

18. (canceled)

19. (amended) The method according to claim **12**, wherein said step of ~~mechanically mixing~~ processing is carried out in an atmosphere consisting essentially of argon.

20. (canceled)

21. (original) The method according to claim **12**, wherein said step of hydrogenation is performed at an initial temperature above about 60°C, and wherein said hydrogen pressure is maintained above an equilibrium plateau pressure for hydrogen at said temperature.

22. (amended) The method according to claim ~~12~~**21**, wherein said step of hydrogenation is performed at an initial temperature of about 125°C, and wherein said hydrogen pressure is maintained at about 100 atmospheres for at least about 2 hours.

23. (canceled)

24. (canceled)

25. (canceled)

26. (canceled)